

## ABSTRACT

Applicant: METABOLIC EXPLORER

Title: Evolved micro-organism for the production of 1,2-propanediol

The present invention concerns a new method of preparation of a strain of evolved micro-organisms for the production of 1,2-propanediol by the metabolism of a simple carbon source, which method comprises the growth under selection pressure in an appropriate growth medium containing a simple carbon source of an initial bacterial strain that has undergone the deletion of the gene *tpiA* and the deletion of at least one gene involved in the conversion of methylglyoxal (propanal) into lactate, in order to cause, in said initial strain, the evolution of one or more genes involved in the biosynthesis pathway from DHAP to methylglyoxal and then to 1,2-propanediol towards evolved genes that possess an improved “1,2-propanediol synthase activity”, the resulting strain or strains of evolved micro-organisms possessing an improved “1,2-propanediol synthase activity” then being selected and isolated.

The invention also concerns the initial micro-organisms and the evolved micro-organisms thus obtained, and a method for the preparation of 1,2-propanediol and possibly acetone by culture of said evolved micro-organisms.